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WHAT IS CLAIMED IS:

Patent Claims

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Substitute Page

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1. Method for the transmission of data in an ATM transmission system,
wherein
5 digital data of a specific plurality of data channels (K_0 - K_3) supplied parallel to the input
side are converted into data units (HB0, HB1) that respectively comprise an identical
plurality of bits from each data channel (K_0 - K_3), and wherein the individual data units
(HB0, HB1) are serially transmitted in the form of cells that are respectively composed
of a specific plurality of these data units (HB0, HB1), characterized in that each cell
10 comprises a specific, characteristic bit sequence;
the serially transmitted data units (HB0, HB1) are received;
the received data units (HB0, HB1) are monitored for the occurrence of the
characteristic bit sequence and, after identification of the characteristic bit sequence,
the first data unit (HB0) of the cell corresponding to the characteristic bit sequence is
15 determined;
beginning with the first data unit (HB0) of the cell corresponding to the characteristic
bit sequence, the individual bits of each data unit (HB0, HB1) of the corresponding
cell are successively divided onto a plurality of parallel data channels (K_0 - K_3) of the
output side corresponding in number to the plurality of data channels (K_0 - K_3) of the
20 input side and the bits of each data unit (HB0, HB1) are output parallel via the
corresponding data channels (K_0 - K_3) of the output side.
2. Method according to claim 1, characterized in that the characteristic bit
sequence transmitted within each cell comprises 8 bits.
3. Method according to claim 2, characterized in that, in step b) before the
25 transmission of the characteristic bit sequence, the more-significant bit of the
characteristic bit sequence [sic] is set in alternation from cell to cell.
4. Method according to claim 3, characterized in that the remaining bits of
the characteristic bit sequence are the same for each cell.

7. Method according to claim 5 or 6, characterized in that the characteristic bit sequence is transmitted in the form of two successive data units (HB0, HB1) with respectively four bits in step b).

9. Method according to one of the preceding claims, characterized in that
the individual data units (HB0, HB1) are transmitted via an optical transmission
medium in step b).

11. Method according to one of the preceding claims, characterized in that each cell, including the characteristic bit sequence, comprises 64 bytes that are transmitted in 128 data units (HB0, HB1) with respectively four bits in step b).

12. Method according to one of the preceding claims, characterized in that each cell encompasses a first group of data units that comprise control information and a second group of data units that comprise payload information, whereby the first group comprises the characteristic bit sequence for the corresponding cell.

13. Method according to claim 11 and 12, characterized in that the first group comprises 16 bytes and the second group comprises 48 bytes.

14. ATM transmission system,
comprising a transmission means (S) that converts digital data of a specific plurality of data channels (K_0 - K_3) supplied to it at the input side into data units (HB0, HB1) such that each data unit (HB0) comprises an identical plurality of bits from each data channel (K_0 - K_3), and serially transmits the individual data units (HB0, HB1) via a transmission medium (D) in the form of cells, whereby each cell is composed of a specific plurality of data units (HB0, HB1),

characterized in that each cell respectively comprises a specific, characteristic bit sequence;

in that a reception means (E) is provided that receives the serially transmitted data units (HB0, HB1) from the transmission means (S) and monitors them for the occurrence of the characteristic bit sequence, whereby the reception means (E), after detecting the characteristic bit sequence in the serially transmitted data units (HB0, HB1), determines the first data unit of the cell corresponding to the characteristic bit sequence and, beginning with this first data unit, successively divides the individual bits of each data unit (HB0, HB1) of the corresponding cell onto a plurality of parallel data channels (K_0 - K_3) of the output side corresponding in number to the plurality of data channels (K_0 - K_3) of the input side and outputs them in parallel.

15. ATM transmission system according to claim 14, characterized in that the transmission means (S) and the reception means (E) are fashioned such that the digital data of the parallel data channels (K_0 - K_3) supplied to the transmission means (S) are transmitted from the transmission means (S) to the reception means (E) according to the method according to one of the claims 2-13 and are output at said reception means (E) via the parallel data channels (K_0 - K_3) of the output side.

16. ATM transmission system according to claim 14 or 15, characterized in that the parallel data channels (K_0 - K_3) supplied to the transmission means (S) and/or the parallel data channels (K_0 - K_3) of the output side connected to the reception means (E) comprise a data transmission rate of approximately 830 Mbit/s; and in that the transmission means (S) optically transmits the individual data units (HB0, HB1) to the reception means (E) serially with a data rate of approximately 3.3 Gbit/s.

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